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#### Remarks

This is in response to the Official Action mailed September 19, 2005. Applicants note with appreciation the courtesy and professionalism of both of the Examiners present during the recent Office Interview.

As set forth in the Interview Summary (Paper No 1005), the amended claims overcome the art of record as applied to date.

In the recent Office Action, the originally presented claims (1-12) were objected to because step (e) followed step (c). Claim 1 has been amended to correct this typographical error.

Claim 3 was rejected based on the presence of the recitation "acids" which the Examiner stated should be "amino acids." Claim 3 has accordingly been amended in that fashion.

Following the Restriction Requirement (mailed July 20, 2005) and Applicants' Election (filed July 28, 2005), Claim 1 remained as the only independent claim under consideration. The Examiner took the position that Claim 1 was anticipated by either the Erdelyi or Yu references.

In response, and as discussed at the interview, Claim 1 has been amended to clarify that the application of microwaves is carried out during both the deprotecting and coupling steps and potentially during the activation step as well. The applied references limit the application of microwave to the coupling step. Thus, Claim 1 defines over the § 102 art as applied to date.

As further discussed in the Interview, and with respect to the obviousness rejection brought under the combination of Yu and Santagada (and in some cases with Greene), the applied references represent the conventional thinking; i.e., that the deprotection step is particularly susceptible to undesired side reactions. Thus, the cited references lack any encouragement to accelerate or otherwise enhance the deprotection step because of the conventional belief that this would decrease yield of the desired product.

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In contrast, the claimed invention specifically enhances the deprotection reaction by applying microwaves and thus stands in contrast to the applied art.

As further discussed at the Interview, two new independent claims are presented, each of which combines the recitations of amended Claim 1 with recitations from some of the originally presented dependent claims. New claim 62 incorporates the recitation of proactively cooling the vessel and its contents during the application of microwave energy. Such cooling permits the microwaves to enhance the reaction while avoiding the undesired effects of excessive heat. Newly presented dependent claims 63 through 72 correspond in their language to the originally presented dependent claims.

Newly presented independent claim 73 incorporates the recitation of repeating the cycle to add third and successive amino acids, and doing so in a single vessel without removing the peptide from the resin between cycles. These manipulative steps permit the corresponding instrument to operate in automated fashion. Dependent claims 74-82 likewise correspond to the originally presented dependent claims.

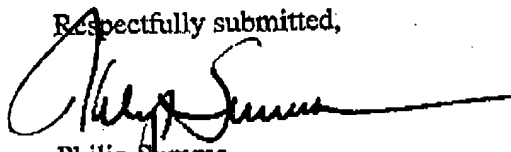
Based on the number of claims filed originally (61 total, 4 independent) Applicants believe that no additional fee is required for presenting the amended claim set. The Commissioner is, however, hereby authorized to charge any required fees to Deposit Account No. 50-0332.

The method of the claimed invention has met commercial success in the form of industry acceptance and sales of the associated instrument (which is the subject of the nonelected claims herein and the now co-pending divisional applications). As examples, two exhibits were shown at the Interview, and images of these are included herein. One is a Bulletin from the Brookhaven National Laboratory and the other is a report of the 2004 R&D 100 Award. Applicants respectfully submit that these items represent objective evidence of nonobviousness.

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Applicant accordingly submits that all of the pending claims are in condition for immediate allowance, and the same is respectfully requested.

Respectfully submitted,

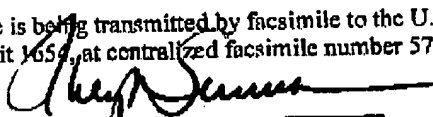


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I hereby certify that this correspondence is being transmitted by facsimile to the U.S. Patent and Trademark Office, Group Art Unit 1654, at centralized facsimile number 571 273 8300 on October 24, 2005.



Philip Summa



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## World's first Microwave Peptide Synthesizer Wins R&D 100 Award

**CEM** *Innovators in  
Microwave Chemistry* For Immediate Release

**World's first Microwave Peptide Synthesizer  
Wins R&D 100 Award**

(Charlotte, North Carolina) July 4, 2004 - CEM Corporation, the leading provider of microwave laboratory instrumentation, is pleased to announce that the Olyray™ System, the world's first microwave peptide synthesizer, has won the 2004 R&D 100 Award. The award is presented on a yearly basis by thousands of R&D professionals in recognition of the most "technologically significant new products and processes of the year."

"It is an honor to receive the R&D 100 Award and we thank the judging panel and the editors of R&D Magazine for their consideration," said Michael J. Collins, President & CEO of CEM Corporation. "This award confirms our belief that Olyray is a commercial breakthrough in technology for synthesizing peptides, which have become a key area of research for drug discovery."

Dr. Collins added, "We are pleased to add this year's award for Olyray to the 2000 R&D 100 Award for our Voyager™ System, which is used in testing pharmaceutical chemistry applications. These new systems combine an exceptional use of microwave technology in life science applications and further the realization of the full potential of the technology in this area."

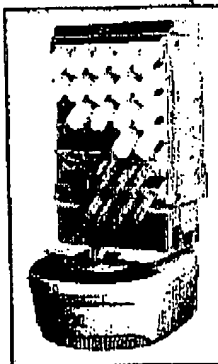
Built on the Discover™ System platform, Olyray integrates CEM's patented Forward™ microwave technology in a system designed specifically for peptide synthesis. Olyray's unique utilization of microwave energy results in significantly increased reaction rates and product purity, overcoming chain aggregation and giving researchers the unprecedented ability to synthesize peptides that were previously inaccessible by conventional synthetic methods. By applying peptides, scientists are able to better understand how proteins interact and function in the human body as well as identify in a number of diseases including cancer, heart disease and neurological deterioration.

**CEM Corporation, a private company based in Matthews, North Carolina, is a leading provider of microwave laboratory instrumentation and has subsidiaries in the United Kingdom, Germany, Italy and France. CEM designs and manufactures systems for life sciences, analytical laboratories and processing plants worldwide. The Company's products are used by over 10,000 sites including pharmaceutical, research, chemical and food processing, as well as academic research.**

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